四国大学紀要, (A) 56 : 61 − 72, 2021
Bull. Shikoku Univ. (A) 56 : 61 − 72, 2021

Why is Medical Coding job so popular with Junior College Students in spite of its allegedly relatively lower wages?

Tetsuya KURATANI

ABSTRACT

Potential contribution is to show college graduates or students trying to find a job one aspect of medical data processors market as well as similar labor markets in order to make a wiser decision to choose a job opportunity. With the information given by my research, I believe they may pay more careful attention to what a medical coding job is like. Shikoku University junior college offers a training course to be a medical processor, and some students want to work as a medical data processor. My research result may be useful for them.

My research tries to give some answers to the following questions:

1) Why are medical data processing jobs so popular with junior college students in spite of relatively lower wages.
   The answer: monetary compensations seem not to be a primary reason why they choose medical coding jobs.
2) Is it true that qualified medical data processors tend to gain better job opportunities than non-qualified people? In other words, does it pay for junior college students to get qualifications to be a medical processor as far as base pay at the entry level is concerned?
   The answer: holding qualifications to be a medical data processor usually doesn't pay off.
3) Allegedly several medical institutions are called sweatshops or they pay minimum wages or less to medical processors. Is this true?
   The answer: money-wise, most of medical institutions are law-abiding.

KEYWORDS : Medical coding job, Medical processor

Background

Medical Coding job is popular with junior college students. Business and Communication Department, Shikoku University, Junior College for which I work has a two-year training course for medical coding job. In Chart 1 its popularity is shown by the share of students in the Department. The share of the students in this course is the second largest and around 30% of all, second to that of public servant course. As to private sector job, its popularity is most high among students, especially among females. Girls in medical coding job training course account for 97%, that is 32 out of 33 as of May, 2018. Thus, judging from the ratio, medical coding job is their favorite future job.

Chart 1: Enrollment of students at Shikoku University, Junior college (on April 18, 2018)

Course	Number of students	%
Public Servant	49	47.12%
Medical Coding	33	31.73%
Business Career	15	14.42%
3-Year course	5	4.81%
Regional Business	2	1.92%
Total:	104	100.00%

Source: Business and Communication Department, Shikoku University Junior College.

Chart 2 tells where junior college graduates get a starting berth. Medical coding job has the second largest share among the graduates. Thus, we come to know that medical coding job is favored by a number of junior college students.

Chart 2: Place of Employment of graduates of 2017 and 2018

Place of employment	Number of graduate	%
Private firms	28	45.16%
Medical coding	23	37.10%
Advancement to university	5	8.06%
Non-labor force	4	6.45%
Civil servant	2	3.23%
Total	62	100.00%

Source: Business and Communication Department, Shikoku University Junior College

Then why does the medical job seem to be attractive for female? We may find several reasons why.

1) Through internet, medical office associations for providing medical coding license put up huge advertisement telling people that medical coding job is very good for females. According to them, they state the following reasons:

(1) You can choose the way you work.
(2) You can aim for regular employee.
(3) The job is compatible with parenting.
(4) You can work regardless of age.
(5) Educational background and or experience do not matter.
(6) You can find the job anywhere in Japan.
(7) Medical coding license might allegedly boost employability of novice job seeker who might lack working experience.
(8) As a social status, working for medical clinic or hospital is more prestigious and more respectable than working for private companies.

2) In addition, some junior college girls tell us why they want to be a medical processor. Saying, "A casual conversation with her at the time of accounting took care of my anxiety at a hospital to which I used to go since I was young," they got a good impression from medical data processors and they want to be like them.

Even though medical coding job seems to be attractive for some these reasons, wage-wise, does it so?

Now, let us examine by comparing medical coding job with clerical job to clarify the difference if there any.

Data source

Data items were extracted from job offer information sheets sent by private companies, medical clinics, hospitals and extra-government organizations, which had been transmitted to the job replacement office of Shikoku University. They are to be seen by college students and if they take interest in them, they will apply for a job that will usually start on April 1, when graduates start working. These pieces of job offer information give us contents of job opportunity for junior college students who would graduate in March 2018. The job category with which we deal is a clerical and medical coding jobs only, since Department of Business and Communication is oriented to produce future clerical workers.

These pieces of job information sheets sent to Shikoku University junior college mean potential demand for the junior college graduate. In other words, a bunch of job information sheets form a labor market for junior college job seekers.

Structure of the labor market

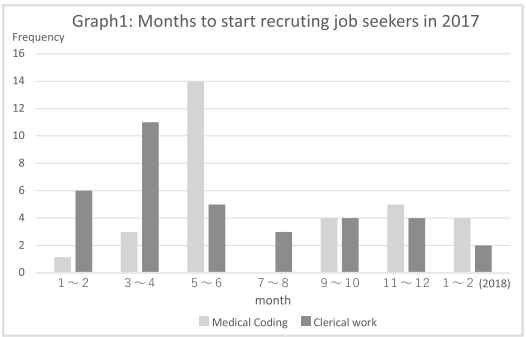
For junior students in college and second-year students in junior college, there is a specific labor market. Its features are as follows:

(1) Job offering information for college graduate to-be will be usually available beginning from March 1.

The recruitment schedule such as when to start accepting entries and when to interview is set by the guidelines on recruitment screening to member companies of the Japan Business Federation Association as requested by the government. For this reason, companies that are members of the Association such as major companies are likely to adopt it on a schedule that adheres to this guideline. Meanwhile, since there is no legal binding force in the "guidelines on recruitment selection", there are cases where non-

member companies and foreign-affiliated companies conduct hiring selection on their own schedule.

How the guidelines are observed is partly shown by the Graph 1 where the months when job offer information starts coming in are shown. Job information must become available according to the date of the guidelines. But the fact is slightly different from them. Offer of clerical job concentrates in the month of March and April. Then in a concentrated manner, medical coding job information comes in May and June. Clerical job offers start earlier perhaps because they try to secure better job candidates as soon as possible. Thus intensity of job offering is not the same on the two-month basis, and job offers for medical coding job is rather law-abiding.



(2) Medical Coding job is mainly not for college graduate. but for junior college graduate

Between February 2017 and February 2018, job offer information sheets of medical coding job reached Shikoku University totaling 31. 30 out of 31 pieces of information, medical coding job was offered to junior college students. Only one medical coding job was for college student. The fact that medical coding job is for mainly junior college was confirmed by my interview with over 200 medical doctors and recruiting officers of local medical institutions. It is only two interviewees that tell whom they need is 4-year college grad, not junior college grad. It's for rather huge hospitals to recruit college grad. Probable reason why medical coding job is not for college grad is that the clerical job does not usually have better perspective to become a managerial position.[1]

(3) Comparison of days off between two occupations

Days off are very important feature for young people, because Japan is notorious for very low paid leave acquisition rate.[2] Graph 2 tells us the length of day-off given to workers. It may serve as one of the yardsticks what a working condition is like. The average of days off in medical coding job is 112.3548 and 109.8571 for clerical job. The mean of the former is slightly larger than that of the latter.

Is there a difference between the means between medical coding and clerical jobs? Since both sample sizes are 30 or larger the central limit theorem is in effect, and the test statistic is

$$z=\frac{(\bar{x}_1-\bar{x}_2)-(\mu_1-\mu_2)_0}{\sqrt{\sigma_1^2/n_1+\sigma_2^2/n_2}}$$

But the population variances are unknown, the sample variances are used. Significance level is set at 0.05. Assumptions are that two independent random samples and that each is drawn from a normally distributed population.

Chart 3: Data

	Medical coding job	Clerical job
Mean	112.354	109.857
No of observation	30	35
Variance (sample)	49.503	198.479

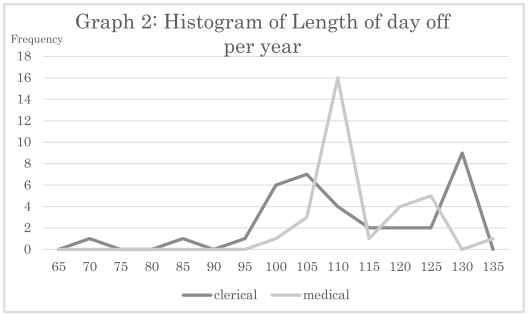
Hypotheses are:
$H_0: \mu_1=\mu_2$
$H_A: \mu_1\neq\mu_2$

This is a sample Z test. If the assumptions are correct and H_0 is true, the test statistic is distributed as the normal distribution. With significance level = 0.05, the critical values of z are -1.96 and $+1.96$. We reject H_0 if $z<-1.96$ or $z>+1.96$.

Then we calculate the test statistic:

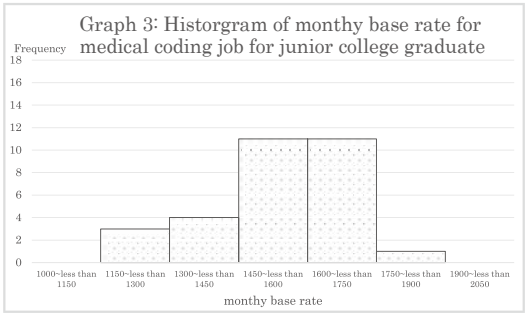
$z=((112.354-109.857)-(0-0))/\sqrt{(49.503/30+198.479/35)}$
$=0.926.$

As a statistical decision, H_0 is adopted because $0.926 < 1.96$. Therefore, it can be considered that there is no clear difference between population mean values.

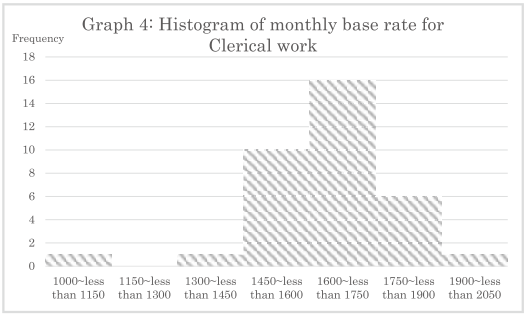


(4) Comparison of monthly base rate of medical coding job with that of clerical job

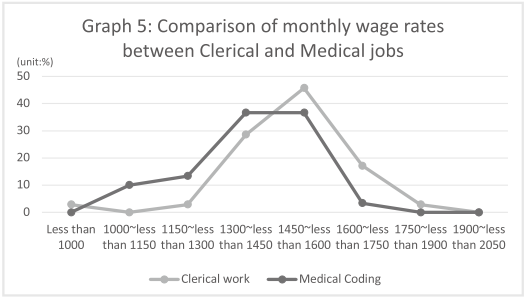
First, we will look at the structure of potential demand for medical coding job seekers. The range is from US$1,009.17 to US$1,638.53. These monthly rates are for junior college graduates. Its mode is situated at the range from US$1,450 to less than US$1,750. The average rate is US$1,387.06 and median is 1399.08. Its standard deviation is 154.04. Its histogram is given in Graph 3. The number of observation is 30.



Next we will take a look at a histogram of monthly base rate for clerical work. The range is from US$614.67 to US$1,777.06. These monthly rates are for junior college graduates. Its mode is situated at the range from US$1,600 to less than US$1,750. The average rate is US$1,475.09 and median is US$1,472.47. Its standard deviation is 191.91. The number of observation is 35. Its histogram is given in Graph 4.



Then we need to compare the distribution of wages between these kinds of jobs. The Graph 5 shows the comparison of the distribution of monthly wages between two females' favorite jobs. In order to make them comparable, the unit is translated from frequency to its relative frequency. Comparing the histogram for medical coding job to the histogram for clerical work, the two shapes of the two distributions do not significantly seem to be different.



One way to look at the difference between two segments of a labor market is to test the null hypothesis that the average of monthly wage rates between two markets is the same. If this hypothesis is rejected, we may insist that there is some difference between the two population averages. Since the number of observations in both market is nearly 30, even if the distribution of population is

not normal, the sample average of medical coding and that of clerical work will approximately follow normal distribution, the difference between the two average is expected to follow normal distribution.

Approximate value of the standard deviation of the difference of two averages is 43.4903.

Is there a difference between the means between medical coding and clerical jobs? Since both sample sizes are 30 or larger the central limit theorem is in effect, and the test statistic is

$$z = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)_0}{\sqrt{\sigma_1^2/n_1 + \sigma_2^2/n_2}}$$

But the population variances are unknown, the sample variances are used. Significance level is set at 0.05. Assumptions are that two independent random samples and that each is drawn from a normally distributed population.

Chart 4: Data

	Medical coding job	Clerical job
Mean	1387.06	1475.09
No of observation	30	35
Variance (sample)	23728.32	36829.45

Hypotheses are:
$H_0 : \mu_1 = \mu_2$
$H_A : \mu_1 \neq \mu_2$

This is a sample Z test. If the assumptions are correct and H_0 is true, the test statistic is distributed as the normal distribution. With significance level = 0.05, the critical values of z are -1.96 and $+1.96$. We reject H_0 if $z < -1.96$ or $z > +1.96$.

Then we calculate the test statistic:

$z = ((1387.06 - 1475.09) - (0-0)) / \sqrt{(23728.32/30 + 36829.45/45)}$
$= -2.19433.$

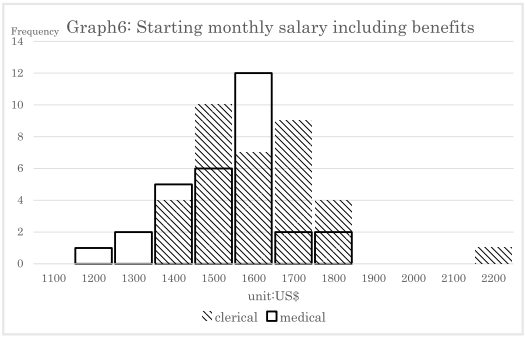
As a statistical decision, H_0 is rejected because $-2.19433 < -1.96$. Therefore, it can be considered that there is difference between population mean values.

Effect of various Perquisite on the monthly pay

By adding various perks on the monthly pay, the total monthly pay seems to apparently be better in the eye of job seeker in the short run. But in the long run, this seemingly higher monthly pay has detrimental effect on the amount of severance pay, because the total amount of severance pay is usually calculated based upon monthly base rate excluding various perquisite

Monthly pay for medical coding job adds duty allowance, qualification allowance, allowance for housing, perfect attendance allowance and other allowances to monthly wage rate.[3]

Graph 6 shows you comparative histograms of starting monthly salary including benefits in medical coding and clerical jobs.



Statistically is there any difference between the means between medical coding and clerical jobs? Just like previous case, we will set up hypotheses:

$H_0 : \mu_1 = \mu_2$
$H_A : \mu_1 \neq \mu_2$

Significance level is 0.05 and it is assumed that there are two independent random samples and that each is drawn from a normally distributed population. The critical values of test statistic Z are -1.96 and $+1.96$. Test statistic:

$Z = ((1483.39 - 1560.65) - (0-0)) / \sqrt{(19882.65/30 + 24418.35/35)}$
$= -2.09.$

As a statistical decision, H_0 is rejected because $-2.09 < -1.96$. Therefore, there must be difference

between population mean values. In other words, starting monthly salary including various allowances for medical coding job is smaller than that of clerical job.

Chart 5: Data

	Medical coding job	Clerical job
Mean	1483.39	1560.65
No of Obs.	30.00	35.00
Variance (sample)	19882.65	24418.35

Five-day workweek with Saturday and Sunday day off

While working a full 5 days a week and taking a good rest for 2 days (Saturday and Sunday) is the ideal type of work, the proportion of companies currently adopting the full weekly two day system is not as high as we thought. Ministry of Health, Labor and Welfare's Comprehensive Survey on Working Conditions for 2017 puts it at 46.9%.

Then, our concern is which job has better two day off system. While 15 clerical jobs out of 35 across industries gives employees the full weekly two day system, in medical coding industry, 2 out of 31 offer a full 5 day workweek. Overwhelmingly clerical job provide better working condition.

Is holding medical coding certificate useful when they try to find a job?

We may come to know that holding the certificate is useful, if monthly salary and/or monthly salary plus benefit is bigger than they have no such qualification.

We have 9 job offers which require the certificate while 21 medical institutions don't. Comparing the means of these two kinds of job may shed light on the effect of the certificate.

First of all, we will take up the average of monthly salary plus benefit case. we take F-test to determine whether the population of the two groups is equally distributed. The observed dispersion ratio is smaller than F boundary value and therefore, null hypothesis that there is no difference between two variances is adopted.

F-Test: Variance test using sample

	Not required	M Coding
Average	160380.9524	164744.4444
Variance	241094619	238587777.8
Number of Obs	21	9
Degree of Freedom	20	8
The observed dispersion ratio	1.010506998	
P(F<=f) One-sided	0.527152673	
F boundary value one-sided	3.150323774	

Then, the difference between the average of certificate required and certificate not required is to be tested in order to ascertain whether or not it is significant, at a significance level of 5%.

When t test was conducted, $t(28) = -0.706$, $p = .48$ were given. A significant difference was not found in this test.

t-Test

	Not required	M Coding
Average	160380.95	164744.44
Variance	241094619	238587777.8
Number of Observations	21	9
Pooled variance	240378378.685	
difference from hypothetical average	0.000	
Degree of Freedom	28.000	
t	−0.706409879	
P(T<=t) one-sided	0.242885221	
t boundary value one-sided	1.701130934	
P(T<=t) two-sided	0.485770443	
t boundary value two-sided	2.048407142	

Next we will look at the results of f-test and t-test as to monthly basic pay.

F-Test: Variance test using sample

	Not required	M Coding
Average	149904.76	154188.89
Variance	310437476.19	231421111.11
Number of Obs	21	9
Degree of Freedom	20	8
The observed dispersion ratio	1.34	
P(F<=f) One-sided	0.35	
F boundary value one-sided	3.15	

The observed dispersion ratio is smaller than F boundary value and therefore, null hypothesis that there is no difference between two variances is also adopted.

The result of t-test is given below. When t test was conducted, $t(28) = -0.63$, $p = .53$ were given. A significant difference was not found in this test.

t-Test

	Not required	M Coding
Average	149904.76	154188.89
Variance	310437476.19	231421111.11
Number of Observations	21	9
Pooled variance	287861371.88	
difference from hypothetical average	0	
Degree of Freedom	28	
t	-0.63	
P(T<=t) one-sided	0.27	
t boundary value one-sided	1.70	
P(T<=t) two-sided	0.53	
T boundary value two-sided	2.05	

From the statistical results, medical coding certificate does not seem to make a difference on monthly salary plus benefits and monthly basic pay.

Do several medical institutions pay a minimum wage or less to medical coding workers?

Allegedly several medical institutions are called sweatshops or they pay minimum wages to medical data processors. Is this true? If it is so, getting employed as medical coding processor at medical institutions is not a good idea.

To find out whether the wage paid is equal to or higher than the minimum wage amount, Ministry of Labor, Health and Welfare shows us to compare the wage subject to the minimum wage and the applicable minimum wage amount in the following way:

Monthly basic pay/averaged work hours per month average ≧ hourly minimum wage

Which allowances are subject to minimum wage? The wage covered by the minimum wage is the basic wage paid monthly. Specifically, the wage excluding the following wages from the wage actually paid is subject to the minimum wage.

1) Wages paid temporarily (marriage allowance etc.)
2) Wages paid every period over one month (such as bonuses)
3) Wages paid for labor with hours exceeding the prescribed working time (such as extra wage overtime)
4) Wages paid for labor on the day other than the prescribed working day (such as holiday extra wage)
5) Of the wages paid for labor between 10 pm and 5 am, the portion that exceeds the calculated wage of normal working hours (such as late-night extra wage)
6) Full-time allowance, commuting allowance and family allowance[4]

Take a dental clinic for example to figure out if it pays a minimum wage or more.

Chart 6: An example

K Dentistry:	Unit:US$
Monthly Basic Salary	1559.63
Qualification Allowance	27.52
Full-time allowance	45.87
Commuting allowance	183.49
Total	1816.51
Salary subject to minimum wage calculation	1587.16
Working hour per day	8 hour
Annual working days	245 days
Minimum wage of Tokushima Prefecture	6.79

Full-time allowance and commuting allowance are excluded in calculation. Therefore, salary subject to minimum wage calculation is: $1816.51 - (45.87 + 183.49) = 1587.16$.

This monthly wage is transformed into hourly wage by the following formula:

$1587.16 \times 12(\text{months}) / 245 \times 8 = 9.717$

Comparing the hourly wage with the minimum wage[5] of Tokushima prefecture; $9.717 \geqq 6.79$

Thus K Dentistry pays more than minimum wage.

Following the formula above, we calculate hourly wage for each of 30 medical institutions to compare with minimum wage of each prefecture where it is located. The result is shown in Chart 7. Only R N Hospital pays the wage, US$6.11 which is smaller than the minimum wage, US$6.79.

Thus, from the point of view of minimum wage, Almost all medical institutions are law-abiding.

Chart 7: Comparison between salary subject to minimum wage calculation and minimum wage

	K Dentistry:	KT Hospital	Dental Office M	T dental Clinic	N dental Clinic	R N Hospital	O Otolaryngology (Hyogo)	I Othopedics
Monthly Basic Salary	1559.63	1128.44	1467.89	1376.15	1376.15	1055.05	1376.15	1009.17
Job allowance		321.10					45.87	
Qualification Allowance	27.52			45.87				137.61
Full-time allowance	45.87		183.49		91.74			91.74
Other allowance								
Housing allowance								
Capacity Allowance						91.74		
Food Allowance								
Work Allowance			91.74					
Commuting allowance	183.49	137.61	183.49	103.67	45.87	45.87	275.23	110.09
Total	1816.51	1587.16	1926.61	1525.69	1513.76	1192.66	1697.25	1348.62
Salary subject to minimum wage calculation	1587.16	1449.54	1559.63	1422.02	1376.15	1055.05	1422.02	1146.79
Working hour per day	8.00	8.00	8.25	8.00	8.75	8.00	7.00	7.58
Annual working days	245.00	261.00	246.00	246.00	255.00	259.00	233.00	265.00
Minimum wage of October, 2017	6.79	6.79	6.79	6.79	6.79	6.79	7.74	6.79
hourly wage adjusted	9.72	8.33	5.97	8.67	7.40	6.11	10.46	6.84

	M Pediatrices (Komatsushima)	E Hospital (Kagawa)	S O Hospital	I ophthalmology (Tokushima)	S Tokyo)	M dental Clinic
Monthly Basic Salary	1284.40	1513.76	1513.76	1394.50	1238.53	1403.67
Job allowance					183.49	0.00
Qualification Allowance	0.00					0.00
Full-time allowance	45.87		45.87			27.52
Other allowance						0.00
Housing allowance		229.36				0.00
Capacity Allowance						0.00
Food Allowance					174.31	0.00
Work Allowance						0.00
Commuting allowance	45.87	229.36	275.23	82.57	458.72	118.35
Total	1376.15	1972.48	1834.86	1477.06	2055.05	1549.54
Salary subject to minimum wage calculation	1284.40	1743.12	1513.76	1394.50	1596.33	1403.67
Working hour per day	9.00	8.00	8.00	6.50	7.90	8.30
Annual working days	244.00	258.00	248.00	251.00	244.00	244.00
Minimum wage of October, 2017	6.79	7.03	8.34	6.79	8.79	6.79
hourly wage adjusted	7.02	10.13	9.16	10.26	9.94	8.32

	K H Hospital (Hyogo)	M M Hospital (Tokushima)	M M Hospital (Tokushima)	N K Hospital (Hyogo)	K Hospital (Tokushima)
Monthly Basic Salary	1513.76	1376.15	1318.35	1513.76	1446.79
Job allowance	0.00	0.00	0.00	0.00	0.00
Qualification Allowance	0.00	0.00	0.00	0.00	45.87
Full-time allowance	45.87	0.00	0.00	45.87	0.00
Other allowance	0.00	0.00	0.00	0.00	0.00
Housing allowance	0.00	0.00	0.00	0.00	91.74
Capacity Allowance	0.00	0.00	0.00	0.00	0.00
Food Allowance	0.00	0.00	0.00	0.00	0.00
Work Allowance	0.00	0.00	0.00	0.00	0.00
Commuting allowance	183.49	229.36	229.36	0.00	289.91
Total	1743.12	1605.50	1547.71	1559.63	1874.31
Salary subject to minimum wage calculation	1513.76	1376.15	1318.35	1559.63	1584.40
Working hour per day	7.75	8.00	8.00	7.23	7.75
Annual working days	245.00	260.00	260.00	255.00	255.00
Minimum wage of October, 2017	7.74	6.79	6.79	7.74	6.79
hourly wage adjusted	9.57	7.94	7.61	10.15	9.62

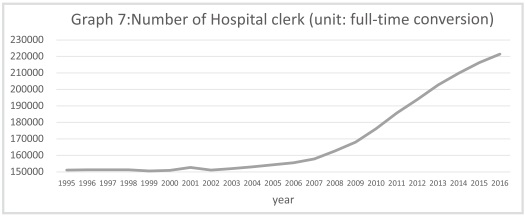
	K Hospital (Tokushima)	R S (Tokyo)	N Gynecology	O Dentistry	O Clinic
Monthly Basic Salary	1446.79	1513.76	1330.28	1376.15	1192.66
Job allowance	0.00	0.00	45.87	45.87	0.00
Qualification Allowance	0.00	0.00	0.00	0.00	91.74
Full-time allowance	0.00	45.87	45.87	45.87	45.87
Other allowance	0.00	0.00	0.00	0.00	0.00
Housing allowance	91.74	0.00	0.00	45.87	45.87
Capacity Allowance	0.00	0.00	0.00	0.00	0.00
Food Allowance	0.00	0.00	0.00	0.00	0.00
Work Allowance	0.00	0.00	0.00	0.00	0.00
Commuting allowance	289.91	0.00	91.74	45.87	110.09
Total	1828.44	1559.63	1513.76	1559.63	1486.24
Salary subject to minimum wage calculation	1538.53	1513.76	1376.15	1467.89	1330.28
Working hour per day	7.75	7.50	8.00	8.00	8.00
Annual working days	255.00	255.00	259.00	244.00	244.00
Minimum wage of October, 2017	6.79	8.79	6.79	6.79	6.79
hourly wage adjusted	9.34	9.50	7.97	9.02	8.18

	H Y Hospital	H O Hospital (Tokyo)	H Hospital (Tokyo)	R Hospital (Tokyo)	H M Clinic (Tokushima)
Monthly Basic Salary	1513.76	1513.76	1513.76	1513.76	1192.66
Job allowance	0.00	0.00	0.00	0.00	0.00
Qualification Allowance	0.00	0.00	0.00	0.00	0.00
Full-time allowance	45.87	45.87	45.87	45.87	91.74
Other allowance	0.00	0.00	0.00	0.00	0.00
Housing allowance	0.00	0.00	0.00	0.00	0.00
Capacity Allowance	0.00	0.00	0.00	0.00	0.00
Food Allowance	0.00	0.00	0.00	0.00	0.00
Work Allowance	0.00	0.00	0.00	0.00	0.00
Commuting allowance	0.00	0.00	91.74	91.74	109.17
Total	1559.63	1559.63	1651.38	1651.38	1393.58
Salary subject to minimum wage calculation	1513.76	1513.76	1513.76	1513.76	1192.66
Working hour per day	7.50	7.00	7.00	7.50	8.00
Annual working days	255.00	255.00	255.00	255.00	256.00
Minimum wage of October, 2017	8.77	8.79	7.74	8.79	6.79
hourly wage adjusted	9.50	10.18	10.18	9.50	6.99

Concluding remarks

Considering the comparisons made in this paper, for junior college students who would like to become a medical office worker, monetary compensations are not necessarily the primary reason why they choose to be so.

In addition, population of hospital clerk has been growing year by year. Putting this trend into perspective, becoming medical coding worker is not wrong choice.



Source: Ministry of Health, Labor and Welfare, *Medical facilities (static and dynamic) survey · Hospital report*, 1995～2016. each year.

References

Health, Labour and Welfare Ministry, *Heisei 28 (2016) Medical Facility (Dynamics) Survey ·Overview of Hospital Report*

Health, Labour and Welfare Ministry, *Comprehensive Survey on Working Conditions in 2017*. (http://www.mhlw.go.jp/toukei/itiran/roudou/jikan/syurou/17/index.html) accessed on June 16, 2018.

Appendix:

Nationwide list of minimum wages by region (Unit: US$＝¥109)

Prefectures	Effective on October 1, 2017	Effective on October 1, 2016
Hokkaido	7.43	7.21
Aomori	6.77	6.57
Iwate	6.77	6.57
Miyagi	7.08	6.86
Akita	6.77	6.57
Yamagata	6.78	6.58
Fukushima	6.86	6.66
Ibaraki	7.30	7.07
Tochigi	7.34	7.11
Gunma	7.18	6.96
Saitama	7.99	7.75
Chiba	7.96	7.72
Tokyo	8.79	8.55
Kanagawa	8.77	8.53
Niigata	7.14	6.91
Toyama	7.29	7.06
Ishikawa	7.17	6.94
Fukui	7.14	6.92
Yamanashi	7.19	6.96
Nagano	7.29	7.06
Gifu	7.34	7.12
Shizuoka	7.63	7.40
Aichi	7.99	7.75
Mie	7.52	7.29
Shiga	7.46	7.23
Kyoto	7.85	7.62
Osaka	8.34	8.10
Hyogo	7.74	7.51
Nara	7.21	6.99
Wakayama	7.13	6.91
Tottori	6.77	6.56
Shimane	6.79	6.59
Okayama	7.17	6.94
Hiroshima	7.50	7.28
Yamaguchi	7.13	6.91
Tokushima	6.79	6.57
Kagawa	7.03	6.81
Ehime	6.78	6.58
Kochi	6.76	6.56
Fukuoka	7.24	7.02
Saga	6.76	6.56
Nagasaki	6.76	6.56
Kumamoto	6.76	6.56
Ohita	6.76	6.56
Miyazaki	6.76	6.55
Kagoshima	6.76	6.56
Okinawa	6.76	6.55

Source: Ministry of Health, Labour and Welfare, *Nationwide list of minimum wages by region*, http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/koyou_roudou/roudoukijun/minimumichiran/
(June 19, 2018 accessed)

[1] This statement is made from my interview results. The author has been visiting various medical institutions to increase job offerings for junior college students.

[2] According to Northstar's survey 2018, paid leave acquisition rate of Japan is worst among 19 countries. https://welove.expedia.co.jp/infographics/holiday-deprivation2018/
(December 30, 2018 accessed)

[3] Commutation allowance is not under consideration, because the monetary amount workers may receive varies depending on the means of commuting.

[4] Ministry of Health, Labor and Welfare, Wage subject to minimum wage.
http://www2.mhlw.go.jp/topics/seido/kijunkyoku/minimum/minimum-12.htm
(June 19, 2018 accessed)

[5] See the Nationwide list of minimum wages by region (Unit: US$ = ¥109).